REMARKS

Applicant appreciates the Examiner's thorough consideration provided the present application. Claims 1-3 are now present in the application. The specification and claims 1-3 have been amended. Claim 1 is independent. Reconsideration of this application, as amended, is respectfully requested.

Specification

The specification has been amended to remove minor informalities. Applicant respectfully submits that no new matter is entered. Entry of the above amendments to the specification is earnestly solicited.

Claim Rejections Under 35 U.S.C. §102

Claims 1-3 stand rejected under 35 USC 102(e) as being anticipated by Wu (US 6,731,684 B1). This rejection is respectfully traversed.

Wu illustrates a flowchart for determining scene change score deltas (see Fig. 3), the most recently used scene change score, and the number of consecutive repeat fields. Wu also illustrates a flowchart for determining a scene change detected frame (see FIG. 4) and for activating a scene change countdown timer. Further, Wu illustrates a flowchart for setting a scene change flag (see FIG. 5). Thus, the flowcharts in Figs. 3-5 disclosed by Wu illustrate the method of determining scene changes but fail to illustrate the video encoding method of the present invention.

Figs. 3-5 of Wu illustrate the method of how to determine a scene change, and Figs. 6A and 6B of Wu illustrate the method of how to determine a picture type. However, the present invention

focuses on the video encoding method which is different from the method of scene change detection disclosed by Wu.

The differences between the present invention and Wu are described as follows:

Present invention	Wu
Start a new GOP when a scene change is detected in a picture PIC_n;	Start a new GOP only in the following situations: a: FrameCount > MaxGopLen b: Buffer_level <= ThBuf and (not ScDet = 1 or ScCount >=0) and (preType = P and scene_change = 1 and ScCount = 0) c: Buffer_level <= ThBuf and (not ScDet = 1 or ScCount >=0) and (FrameCount > GopLen and preType = P)
If the picture PIC_{n-1} is not a reference picture (that is, picture PIC_{n-1} is a B-picture), the picture PIC_{n-1} is re-coded as a P-picture, start a new GOP, the picture PIC_{n+M-1} is coded as a I-picture and the pictures PIC_n to PIC_{n+M-2} are coded as B-pictures with only referring to the picture PIC_{n+M-1}.	Wu Determines the type of a present picture only by referring to the type of its immediately preceding picture without referring the types of several preceding or several succeeding pictures. For example, Wu encodes the present picture as a B-picture simply because its immediately preceding picture is a B-picture. Further, Wu doesn't teach which picture should

	serve as a reference picture for the present picture to determine its encoded type.
If the picture PIC_{n-1} is a reference picture (that is, picture PIC_{n-1} is an I-picture or a P-picture), the B-pictures preceding the picture PIC_{n-1} is coded, start a new GOP, the picture PIC_{n+M-1} is coded as a I-picture and the pictures PIC_n to PIC_{n+M-2} are coded as B-pictures with only referring to the picture PIC_{n+M-1}.	Wu Determines the type of a present picture only by referring to the type of its immediately preceding picture without referring the types of several preceding or several succeeding pictures. For example, when the immediately preceding picture is not a B-picture, the present picture is encoded as an I-picture once a new GOP starts; otherwise, the present picture is encoded as a P-picture. Further, Wu doesn't teach which picture should serve as a reference picture for the present picture to determine its encoded type.

To sum up, according to the present invention, the type of the picture PIC_{n-1} serves as a main factor to determine how to encode the preceding pictures of the picture PIC_n. For example, when the type of the picture PIC_{n-1} is a B-picture (not a reference picture), only the picture PIC_{n-1} is encoded as a P-picture; in comparison, the preceding pictures of the picture PIC_n are encoded in case the type of the picture PIC_{n-1} is a I –picture or a P-picture (reference picture). Then, the picture PIC_n serves as a new GOP, the picture PIC_{n+M-1} is encoded as I-picture, and the pictures PICn to PICn+M-2 are encoded as B-picture.

However, the prior art reference only discloses a typical encoding method that encodes a pictures according to scene change, frame number (parameter Frame Count), and Maximum length of GOP (MaxGopLen) but fail to provide the function of editing. Thus, a new GOP is not always established when a scene change occurs, which is contrary to the present invention where a new GOP must be established when a scene change occurs.

Further, according to the prior art reference, the encoded type of the present picture is determined by the type of preceding pictures and whether to establish a new GOP , and the pictures that have been encoded will not be encoded again. On the contrary, according to the present invention, under certain circumstance the pictures that have been encoded will be encoded again to ensure high image quality; for example, in case the picture PIC_{n-1} is encoded as B-picture (not a reference picture), it will be re-encoded as B-picture.

In view of the above, it is clear that the Wu reference fails to disclose all the claimed features of the invention. Since Wu fails to teach each and every limitation of amended independent claim 1, Applicant respectfully submits that claim 1 and its dependent claims clearly define over the teachings of Wu. Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. § 102 are respectfully requested.

CONCLUSION

Since the remaining patents cited by the Examiner have not been utilized to reject the claims, but merely to show the state of the prior art, no further comments are necessary with respect thereto.

It is believed that a full and complete response has been made to the Office Action, and that as such, the Examiner is respectfully requested to send the application to Issue.

In the event there are any matters remaining in this application, the Examiner is invited to contact Joe McKinney Muncy, Registration No. 32,334 at (703) 205-8000 in the Washington, D.C. area.

Pursuant to 37 C.F.R. §§ 1.17 and 1.136(a), Applicant respectfully petitions for a one (1) month extension of time for filing a response in connection with the present application and the required fee is attached herewith.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§1.16 or 1.17; particularly, extension of time fees.

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Respectfully submitted,

By
Joe McKinney Muncy
Registration No.: 32,334
BIRCH, STEWART, KOLASCH & BIRCH, LLP
8110 Gatehouse Road
Suite 100 East
P.O. Box 747
Falls Church, Virginia 22040-0747
(703) 205-8000
Attorney for Applicant